

REMARKS

Claims 1-22 were pending in the application before entering this amendment.

The examiner rejects claims 1-22 under 35 U.S.C. § 103 (a) as being unpatentable over Chaddha et al. (U.S. Patent 5,768,535) in view of Fan et al. (U.S. Patent 6,408,005).

The applicant amends claims 1, 13, and 17, cancels claim 14, and adds claims 23-26.

Claims 1-13 and 14-26 remain in the application after entering this amendment.

The applicant adds no new matter and requests reconsideration.

Claim Rejections Under § 103

The examiner rejects claims 1-22 as obvious over Chaddha in view of Fan. Applicant disagrees for the reasons that follow.

The applicant amends claim 1 to recite *transmitting the enhancement layer if there is enough bandwidth available to transmit the enhancement layer responsive to determining the bandwidth associated with transmitting the base layer; ceasing the transmitting the enhancement layer responsive to accepting, at an input of a data transmitter, data that has been encoded into a second base layer and a second enhancement layer.* Support for the added limitation may be found throughout the specification, e.g., page 8, lines 19-21. Claims 13 and 17 include similar limitations.

Consistent with the prosecution history, the examiner acknowledges that Chaddha does not teach transmitting the enhancement layer if there is enough bandwidth available to transmit the enhancement layer.¹ The examiner, however, suggests that Fan's dynamic rate control scheduler provides the missing element.²

As Chaddha does not disclose the limitation related to transmitting the enhancement layer, Chaddha can not disclose ceasing the transmitting the enhancement layer after a new base layer is accepted. Additionally, Fan does not disclose a base layer and hence, can not disclose ceasing the transmitting the enhancement layer after a second base layer is accepted. That is, neither Chaddha nor Fan disclose ceasing the transmitting the enhancement layer responsive to accepting data that has been encoded into a second base layer and a second enhancement layer, as would be required by claims 1, 13, and 17.

¹ Office action dated 3/19/07, page 2.

² Office action dated 3/19/07, page 3.

Additionally, Chaddha discloses that “packets within the embedded bit-stream preferably are prioritized with bits arranged in order of visual importance. The resultant bit stream is easily rescaled by dropping less important bits.”³ Chaddha further discloses that “congestion due to contention for network bandwidth, central processor unit (“CPU”) cycles, etc., in the dynamic environment of general purpose computing systems can be overcome by intelligently dropping less important packets from the transmitted embedded stream.”⁴ In summary, Chaddha discloses a system in which the less important packets (i.e. packets of the enhancement layer) are dropped in case of network congestion. That is, Chaddha teaches away from trying to transmit the enhancement layers whenever bandwidth is available, as recited in the claims (Chaddha simply drops the enhancement layer in case of congestion). And “it is improper to combine references where the references teach away from their combination.”⁵ Thus, a combination of Chaddha with Fan is improper.

For at least these reasons, claim 1, 13, and 17 are in condition for allowance along with associated dependent claims.

Claim 4 recites *the data transmitter has a pre-set target data rate, and wherein determining if there is enough bandwidth available to the data transmitter to transmit the enhancement layer in addition to the base layer already transmitted comprises determining whether an average bandwidth used by the data transmitter over a last measuring period is below the pre-set target data rate.* Claims 15 and 19 include similar limitations. The examiner acknowledges that Chaddha does not teach this limitation, but alleges that Fan’s dynamic rate control scheduler teaches the limitation. The examiner argues that Fan’s scheduler measures the load on the downstream buffers and determines whether to distribute unused bandwidth. The examiner, while rejecting a similar limitation in claim 12 regarding average bandwidth, also points to equation (3) and (4) of Fan⁶ and alleges that Fan calculates an average over time. The two equations of Fan, however, merely calculates a minimum guaranteed bandwidth M_i allocated to stream i ; these equations do not calculate an average bandwidth calculated over a last measuring period, as would be required by the claims. The examiner, thus, has failed to specifically point out where Fan discloses determining an average bandwidth, as recited in the claims. The examiner has also not pointed out where Fan specifically discloses a pr-set target

³ Chaddha, column 3, lines 28-35.

⁴ Chaddha, Column 6, lines 58-67.

⁵ MPEP 2145 (X)(D)(2).

⁶ Chaddha, column 7, lines 5-15.

data rate. And hence, the examiner has failed to specifically state where Fan discloses determining whether an average bandwidth is below the pre-set target data rate, as would be required by claims 4, 15, and 19.

Claim 12 recites *determining if there is enough bandwidth available to the data transmitter to transmit data in addition to the base layer already transmitted comprises calculating at least two average bandwidths used by the data transmitter, each of the average bandwidths calculated over different measuring periods*. As argued with respect to claim 4, Fan does not disclose calculating an average bandwidth. And hence, Fan can not disclose calculating at least two average bandwidths calculated over different measuring periods, as would be required by claim 12.

The applicant adds new claims 23-26. Claim 23 recites *generating and displaying a video image responsive to the decoded base layer of data and enhancing the quality of the video image responsive to the decoded enhancement layer of data*. Claim 25 includes similar limitation.

That is, the claim recites generating a video image based on the received base layer and subsequently enhancing the quality of the image based on the received enhancement layer (if such an enhancement layer is at all received).

Chaddha teaches encoding audio and video data in a base layer and one or more enhancement layer. “Collectively, the base and enhancement layers comprise the transmitted embedded bit stream. At the receiving end, the decoder extracts from the embedded stream different streams at different spatial and temporal resolutions. Because decoding requires only additions and look-ups from a small stored table, decoding occurs in real-time.”⁷ Chaddha discloses decoding only the base layer or decoding a combination of the base and enhancement layer. For example, if due to network congestion only the base layer is received, Chaddha decodes and recreates audio and video based on the base layer. Alternatively, if a base layer is received along with an enhancement layer, Chaddha recreates an audio or video based on a combination of the both base layer and enhancement layer. Chaddha, however, does not disclose generating and displaying a video image based on the base layer only and subsequently enhancing the quality of the previously generated video image using data obtained from the enhancement layer, as required by claims 23 and 25. For at least this reason, claims 23 and 25 are in condition for allowance along with associated dependent claims.

⁷ Chaddha, abstract.

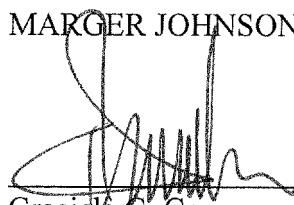
Conclusion

For the foregoing reasons, applicant requests reconsideration and allowance of all pending claims. The applicant encourages the examiner to telephone at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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